

of producing the same effect by electrizing the abdominal-sympathetic, stated that 'he had also caused the arrest by merely touching the exposed and inflamed intestines after section of the abdominal walls. It was necessary that inflammation should have taken place, since the reaction did not follow touching the freshly exposed viscera. It likewise failed when the pneumogastrics were cut, and when the animal was curarized. The explanation given was in agreement with that of Bernstein, that the inflamed terminations of the sympathetic, being excited by the contact, the excitation was propagated along the communicating rami to the cord and upwards to the medulla, whence it reacted on the pneumogastrics.

At a later session of the same society, April 24, M. Tarchanoff made a second communication, in his own name and that of M. Prielma, the abstract of which we take from the *Gaz. des Hôpitaux*, No. 49. The experiments were made by the authors on the arrest of the heart, provoked in animals by excitation of the pneumogastrics.

Wishing to obtain as prolonged an arrest as possible by means of this excitation, they observed the following fact, which seems to have heretofore escaped the attention of physiologists:

They wished to excite alternately each of the two pneumogastrics; but once when one of the two had ceased to be excitable, and consequently to exert action, the other, which had not yet been submitted to any excitation, also ceased to act, although it had not yet been touched. The excitation of only one pneumogastric, therefore, suffices to exhaust the moderator apparatus of the heart. It follows from this fact that the inhibitory mechanism is held in common by the two pneumogastrics. The fact is an important one as regards the inhibitory action of the pneumogastrics on the heart.

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REFLEX EFFECTS OF CAUTERIZATION.—At the meeting of the Soc. de Biologie, April 3 (reported in *Gaz. Méd. de Paris*), M. Brown-Sequard related the results of experiments undertaken by him to determine the reflex action of cauterization of the skin at the level of the cervical vertebræ in man. Being struck by the fact that cauterization at this level produced favorable effects in cerebral congestions, M. Brown-Sequard concluded that the cauterization acted on the cerebral circulation by a reflex action on the great sympathetic; and then he sought to ascertain whether it did not produce the other effects of irritation of that nerve, such as pupillary dilatation and elevation of the temperature.

On three patients cauterized, the effects were quite noticeable; the pupils dilated, the dilatation lasting from five to fifteen minutes, and in one case there was an increase of temperature of one degree. M. Brown-Sequard, in testing whether some other impression, such as cold, produced analogous phenomena, did not obtain equally satisfactory results.

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STRUCTURE OF THE PACINIAN CORPUSCLES.—In a paper on the Pacinian corpuscles, just published in the *Quarterly Journal of Microscopical Sciences*, Dr. Schaefer states that a Pacinian corpuscle may be looked upon as consisting of three parts—the central fibre, the core, and the capsular enclosure.

The central fibre presents a distinct appearance of fibrillation, the fibrils, as a rule, crossing each other very obliquely. It is enlarged at the extremity in most cases, but occasionally there is no distinct swelling, the fibre being merely marked at its sides with minute denticulations or projections, from which, in preparations stained with chloride of gold, fine fibrils sometimes appear to proceed outward. The terminal enlargement, when present, is granular or homogeneous, and refracts light strongly, and it may contain a nucleus. The white substance of Schwann sometimes accompanies the central fibre for a short distance. No sheath of Schwann could be discovered in any instance covering the central fibre. In all respects the central fibre behaves like an axis cylinder. In regard to the core, in many, if not in all instances, an outer nucleated part of variable extent may be distinguished from the almost homogeneous non-nucleated substance which immediately surrounds the central fibre. Next, in reference to the capsular envelope, Dr. Schaefer's observations support the views of Axel Key and Retzius, who regarded the supposed simple capsules as consisting of two layers of flattened cells placed back to back. The intercapsular spaces are filled with an albuminous fluid, and are also pervaded by white and elastic fibres. In regard to the homology of the several parts of the Pacinian corpuscles with those of a nerve-fibre, Dr. Schaefer considers the central fibre as the axis cylinder. The main part of the core corresponds with the delicate protoplasmic layer which lies between the sheath of Schwann and the medullary sheath of a nerve-fibre, whilst the outermost portion of the core is distinctly continuous with the fine connective tissue in which the nerve-fibre lies imbedded within the neurilemma. The outer layers of the Pacinian body are continuous with the corresponding layers of the perineurium.—*London Lancet*, June.

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CONSTITUTION OF THE AXIS CYLINDER.—Fleischl, *Beitr. z. Anat. u. Physiol. Festschr. C. Ludwig gewidmet* (abstracted in *Psych. Centralblatt*). The axis cylinder of the fishes' spinal cord appears differently, according to the fluid employed for hardening it. After hardening in chromic acid, bichrom. potassæ, or Mueller's fluid, we observe in cross sections, the well-known appearance of almost punctiform dark red ends of the axis cylinders with their surrounding concentric lamellæ of uncolored medullary substance; with a stronger power the axis cylinder commonly seems furnished with processes so that it presents a stellate, crescentic or other irregular outline. On longitudinal sections they appear as numerous sinuous extended cords of very unequal thickness, and furnished with excrescences of every conceivable form.

Preparations of the cord of fishes which have been merely hardened in alcohol present a very different appearance. In such the cross section shows the axis cylinders as broad, circular or rounded many-faceted polygonal surfaces of uniform rosy color; and in the longitudinal section they appear as similarly tinted regular stripes of considerable width.

If the cord is hardened by immersion from twenty-four to twenty-eight hours in a perosmic acid solution (1:1000), the cross section gives the same forms as when alcohol alone is employed; the medulla is colored black, the